

In the Claims:

1. (Currently Amended) A communications system comprising:
a base station having an adaptive antenna with a plurality of panels, each panel having a plurality of ~~reconfigurable~~ main array antenna elements for simultaneously generating a plurality of dynamic communication beams; and
a gateway station coupled to said base station, said gateway station forming a plurality of beams commands for each of the plurality of panels by communicating a plurality of control signals to the base station to form the communication beams.
2. (Cancel)
3. (Original) A communications system as recited in claim 1 wherein said base station comprises a plurality of auxiliary elements for canceling interference between the communication beam.
4. (Previously Presented) A communications system as recited in claim 3 wherein said plurality of auxiliary elements are weighted to provide interference canceling.
5. (Original) A communications system as recited in claim 1 wherein said gateway station is rf coupled to said base station.
6. (Original) A communications system as recited in claim 1 wherein said base station is wireless.
7. (Original) A communications system as recited in claim 1 wherein said gateway station is positioned on a stratospheric platform
8. (Previously Presented) A communications system as recited in claim 1 wherein said adaptive antenna comprises a phased array antenna.

9. (Previously Presented) A communications system as recited in claim 1 wherein said main array antenna elements are a modular.

10. (Previously Presented) A communications system as recited in claim 1 wherein said main array antenna elements comprise a plurality of modules coupled to a bus.

11. (Previously Presented) A communications system as recited in claim 10 wherein said bus is coupled to a controller.

12. (Previously Presented) A communications system as recited in claim 1 further comprising a plurality of user terminals receiving said plurality of communication beams.

13. (Original) A communications system as recited in claim 1 further comprising a limiter coupled within a feedback path.

14. (Original) A communications system as recited in claim 1 further comprising a nulling processor.

15. (Original) A communications system as recited in claim 14 wherein said nulling processor comprises an element code despread and a user code despread.

16. (Previously Presented) A communications system as recited in claim 15 wherein said nulling processor comprises a weighted feedback loop coupled to an output signal.

17. (Original) A communications system as recited in claim 15 wherein said nulling processor comprises auxiliary elements coupled to an output signal.

18. (Original) A communications system as recited in claim 1 wherein said base station comprises a plurality of summing blocks coupled to said main array element for generating a summed signal, said gateway station comprising an analog-to-digital converter coupled to a noise injection circuit and said summed signal, said summed signal coupled to a demultiplexer and a digital beam forming circuit.

19. (Original) A communication system as recited in claim 1 wherein said base station comprises a user code despreading circuit coupled to an element code despreading circuit which is coupled to said main array elements.

20. (Currently Amended) A communications system comprising:

a plurality of wireless base stations having adaptive antennas each having a plurality of panels, each panel having a plurality of ~~reconfigurable~~ main array antenna elements, each panel simultaneously generating a plurality of dynamic communication beams;

a gateway station coupled to said plurality of wireless base stations through a plurality of multiple dynamic links, said gateway station forming a plurality of beams for each of the plurality of panels by communicating a plurality of a control signals to the base station to form the communication beams so that a user receives at least a first link from a first base station of the plurality of wireless base stations and a second link from a second base station of the plurality of wireless base stations.

21. (Currently Amended) A method of operating a communication system having a gateway station and a plurality base station comprising:

at the gateway station, dividing a communication signal into a control signal corresponding to a plurality of ~~reconfigurable~~ elements of a plurality of panels of a plurality of adaptive antennas of a plurality of base stations, said control signals corresponding to a plurality of multiple dynamic links;

directing the control signals to the plurality of base stations; and

generating [[the]] multiple dynamic links from the plurality of panels of the plurality of base stations so that more than one dynamic link is generated simultaneously from one panel.

22. (Original) A method as recited in claim 21 further comprising canceling interference between said multiple dynamic links.